Appendix D Trial pit logs

Cau				Project no.			ect Greater Dub e: Investigation	blin Drainage Scheme Ground า	Trialpit No. TP101	
Method:		Plant:		ords:		Clie			Sheet 1	
Trial Pitting		7t tracked excavato	r 308	8841.24	mE				Scale: 1:	:25
Width: 0.	50m Be	aring:		8648.55		Clie	nt's Representative:	Tobin Consulting Engineers	Crew:	
Length: 2.		с eg. N) в		ound Lo		Date	es: 11/12/2014		Logged By: DOM	
	(-					4	01	ture Description	Legend &	
Deptn (m)	Sample / Test	Field Reco	oras					tum Description	Strikes	Installs
Depth (m)	ES ES	Field Reco	brds	(0.1. (49) (1.0. 48)	5)) TC) M/ gra is	DPSOIL ADE GROUND - Soft to firr avelly slightly clayey SILT v subrounded to subangular	tum Description	Water Strikes	
Remarks		imostopo bodrock	Water St Struck (m) 1.40		Details		Stability:			
Reiusal me	efusal met on possible limestone bedrock						Difficulty:		AG	S

Cau	Causeway Geotech Ltd		td Proje	ct no.		Project Name:	oject Greater Dublin Drainage Scheme Ground me: Investigation			Trialpit No. TP102	
Method:		Plant:	Co-o			Client:	Irish Water		Sheet ?		
Trial Pitting		7t tracked excavato	r 30890	68.37mE					Scale: 1	:25	
Width: 0.	50m Be	aring: D		67.25mN nd Leve		Client's Re	presentative:	Tobin Consulting Engineers	Crew:		
Length: 2.	20m (d	с eg.N) в	A Grou 54.59		1.	Dates:	11/12/2014		Logged By		
Depth (m)	Sample / Test	Field Reco	ords	Level 8	& Depth		Strat	tum Description	Legend & Water	Backfill	
				(0.00)		TOPSOIL			Strikes		
				<i>(0.20)</i> 54.39	0.20	Firm brown	slightly sandy gra	velly slightly silty CLAY. Sand is fine to			
						coarse. Gr	avel is subrounded	to subangular fine to medium.			
0.50	В			(0.50)							
				50.00							
				53.89	0.70	weathered	roots. Sand is fine	elly slightly silty CLAY with fragments of to coarse. Gravel is subrounded to			
						subangulai	fine to medium.				
				(0.90)							
1.50	в										
				(52,9 9 52.94	1.60 1.65	<u> Possible lir</u>	nestone BEDROC Enc	K I of trial pit at 1.60 m			
Remarks			Water Strik	es:		Stab	ility:				
A cinarks			Struck (m)	Flow De	tails	Stab					
Refusal me	efusal met on possible limestone bedrock								AC		
						Diffi	culty:		AC	0	

Caus	Causeway Geotech Ltd			Project no.			ct Greater Dub : Investigation	Trialpit No. TP103		
Method:		Plant:	Co-or			Client			Sheet 1	
Trial Pitting		7t tracked excavator	30924	8.62mE					Scale: 1:	25
Width: 0.	50m Be	aring: D		3.21mN		Client	's Representative:	Tobin Consulting Engineers	Crew:	
Length: 1.	80m (d	с eg. N) в	A Grour 59.12	n <mark>d Leve</mark> MOD	el:	Dates	: 11/12/2014		Logged By	: DOM
Depth (m)	Sample / Test			Level &	& Depth		Strat	um Description	Legend & Water	Backfill
							SOIL	·····	Strikes	Installs
				(0.40)						
				(0.40)						
0.50				58.72	0.40	Firm	brown slightly sandy slig ounded to subangular fine	htly gravelly slightly clayey SILT. Gravel is		
0.50	В			(0.40)		Subi				
0.90	В			58.32 <i>(0.15)</i>	0.80	fragr	ments of weathered roots	htly gravelly slightly clayey SILT with and occasional cobbles. Sand is fine to		
0.00				58.17	0.95	coar	seGravel is subrounded End	to subangular fine to medium	108000	
			M-4 01 1				Stability			
Remarks			Water Strike Struck (m)	es: Flow De	tails		Stability: Stable			
Refusal me	efusal met on possible limestone bedrock			K (m) Flow Details						
							Difficulty:		AG	S

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Cau	Jauseway Geolech Llu			Projec 14-645			Project Name:	Project Greater Dublin Drainage Scheme Ground Name: Investigation				
Method:		Plant:		Co-ord			Client:	Irish Water		TP1 Sheet 1		
Trial Pitting		7t tracked excava	ator	309762	2.45mE					Scale: 1	:25	
Width: 0.	50m Be	earing:			3.59mN		Client's Rep	resentative:	Tobin Consulting Engineers	Crew:		
Length: 3.	00m (d	с leg. N) в	A	Groun 71.56N		l:	Dates:	11/12/2014		Logged By	: DOM	
Depth (m)	Sample / Test				Level 8	Denth		Strat	tum Description	Legend & Water	Dackin	
Boptii (iii)							TOPSOIL	olia		Strikes	Installs	
					(0.30)							
					71.26	0.30						
						0.00	occasional o	slightly sandy slig obbles. Sand is fi îne to medium.	htly gravelly slightly clayey SILT with ne to coarse. Gravel is subrounded to			
0.50	В				(0.40)		Subangular	ine to medium.				
					70.86	0.70	Firm grey br	own slightly sand	y slightly gravelly slightly clayey SILT with			
							occasional o		ne to coarse. Gravel is subrounded to			
1.00	в				(0.50)		Suburigular					
1.00	D											
					70.36	1.20			y gravelly slightly silty CLAY with			
					<i>(0.15)</i> 70.21	1.35	fragments or		. Gravel is subrounded to subangular fine			
								End	or that pit at 1.35 m			
Remarks	1	1	Wate	r Strike	s:		Stabi	lity:				
	Struck (r		(m)	Flow Det	tails	Stable	9			•		
Refusal me	efusal met on possible limestone bedrock									9		
						Diffic	ulty:		AU	U U		

Caus	Causeway Geotech Ltd			Project no. 14-645			Greater Dub Investigation	Trialpit No. TP105		
Method:		Plant:	Co-or			Client:	Irish Water		Sheet 1	
Trial Pitting		7t tracked excavator	31106	8.44mE					Scale: 1:	25
Width: 0.	50m Be	aring: D		72.32mN		Client's	Representative:	Tobin Consulting Engineers	Crew:	
Length: 1.	80m (d	с eg. N) в	A Groui 76.51	nd Leve MOD	l:	Dates:	11/12/2014		Logged By	: DOM
Depth (m)	Sample / Test			Level 8	Depth		Strat	um Description	Legend & Water	Backfill
						TOPS		· · · · · · ·	Strikes	Installs
				<i>(0.10)</i> 76.41	0.10	MADE	GROUND - Firm browr	n grey slightly sandy slightly gravelly nts of plastic and timber. Sand is fine to		
0.30	ES					coars	e. Gravel is subrounded	to subangular fine to coarse.		
0.50	В			(1.00)						
1.00	ES									
				75.41	1.10			ntly gravelly slightly silty CLAY with subrounded to subangular fine to		
						mediu				
				(0.50)						
1.50 1.50	ES B			74.91	1.60	 		of trial pit at 1.60 m		
							Ellu	or that pic at 1.00 m		
Remarks			Water Strik				Stability:			
Refueal mot			Struck (m)	ruck (m) Flow Details			Stable			
bedrock	efusal met on possible large boulder or drock					ŀ	Difficult		- AG	S
							Difficulty:			_

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Caus	seway	Geotech L		roject 4-645	no.		Project Name:	Greater Dub Investigatior	lin Drainage Scheme Ground	Trialpi TP1	
Method:		Plant:		o-ords	s:		Client:	Irish Water		Sheet	
Trial Pitting		7t tracked excavato	r 31	10989.	.18mE					Scale: 1	1:25
Width: 0.	50m Be	earing: D			.24mN		Client's	Representative:	Tobin Consulting Engineers	Crew:	
Length: 2.		с eg. N) в		round 7.01M	Leve	l:	Dates:	11/12/2014		Logged B	y: DOM
	(-								.	Legend 8 Water	
Depth (m)	Sample / Test	Field Reco	ords		Level &	-			tum Description	Strikes	Installs
				C	77,0)1 76.91	0.00 0.10	TOPS		n sandy slightly gravelly silty CLAY with		
0.20	ES				(0.35)		fragme	ents of brick, glass and unded to subangular fin	timber. Sand is fine to coarse. Gravel is		
0.30	В			C	0.00)			-			
					76.56	0.45	Firm b	rown slightly sandy gra unded to subangular fin	velly slightly silty CLAY. Gravel is	<u> 223 0778</u>	
0.60	ES						Subiot				
0.80	В										
0.00											
								End	of trial pit at 0.95 m		
Remarks	Remarks Water		Water S					Stability:			
	Struck (refusal met on possible limestone bedrock		Struck (m	1) F	low Det	ails	s Stable			a	
Refusal me											9
							[Difficulty:		AU	
1											

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Cau	Causeway Geotech Ltd			oject no. -645		Project Name:	Greater Dul Investigatio		Trialpit No. TP107	
Method:		Plant:		o-ords:		Client:	Irish Water	·		et 1 of 1
Trial Pitting		7t tracked excavato	۲ 31 [.]	1795.47mE	E	Chent.			Scale:	
Width: 0.	50m Be	earing:	24	0613.08m	١	Client's	Representative:	Tobin Consulting Engineers	Crew:	
Length: 2.		C		round Leve 8.89MOD	el:	Dates:	11/12/2015		Logge	d By: MG
	(-	leg. N) B							Leger Wat	
Depth (m)	Sample / Test	t Field Reco	ords	Level	& Depth			tum Description	Wat Strik	er Installs
0.50	В			(0.15) 78.74 (1.20) 77.54 (0.15) 77.39	1.35	subanı	rown gravelly CLAY. G gular. rown gravelly CLAY wi one bedrock. Gravel is nular	th occasional cobbles of weathered fine to medium, subrounded to I of trial pit at 1.50 m))))	
Remarks Refusal me			Water St Struck (m)		etails	s	Stability: Stable Difficulty:		#	AGS
1										

Cau	seway	Geot	ech Lto	d Projec		Projec Name	ct Greater Dub : Investigation	lin Drainage Scheme Ground		pit No. P108
Method:		Plant:		Co-ord		Client	-			et 1 of 1
Trial Pitting		CX130		311897	.22mE				Scale:	1:25
Width: 0.	60m Be	aring:	D	٦	2.78mN	Client	's Representative:	Tobin Consulting Engineers	Crew:	
Length: 2.			c	A Groun 78.81M	d Level:	Dates	: 03/02/2015		Logged	By: DOM
	(-	eg. N)	B				01	Description	Legend	1.9
Depth (m)	Sample / Test		Field Record	15	Level & Depth			um Description velly slightly silty CLAY. Gravel is	Strike	r Backfill Installs
1.00	В				(2.00)	suba	angular to subrounded fine	to coarse.		ייזיט וייזיט ייזיט ייזיט ייזיט איזיט אטועזיט ועזיט אויט אויט אויט איזיט
2.00	В				76.81 2.00	Firm occa suba	to stiff dark grey slightly sisional cobbles and bould angular to subrounded fine	sandy gravelly slightly silty CLAY with ers. Sand is fine to coarse. Gravel is e to coarse.		
3.00	В				(2.50)					· · · · · · · · · · · · · · · · · · ·
4.00	В				74.31 4.50		End	of trial pit at 4.50 m		ntonentonentonentonentonentonento
Remarks				Vater Strike	'S: Flow Details		Stability: Stable			
							Difficulty:		www.causev © Causew	Kaygeotech.com

Caus	seway	Geotech L	td Project		Projec Name:	t Greater Dub Investigation	lin Drainage Scheme Ground	Trialpi TP1			
Method:		Plant:	Co-or		Client:			Sheet			
Trial Pitting		CX130	31237	1.79mE				Scale: 1	1:25		
Width: 0.	60m Be	aring: D		7.09mN	Client'	s Representative:	Tobin Consulting Engineers	Crew:			
Length: 5.	00m (d	с eg. N) в	A Grour 85.831	n d Level: MOD	Dates:	03/02/2015		Logged B	Logged By: DOM		
Depth (m)	Sample / Test			Level & Depth		Strat	tum Description	Legend 8 Water	Backfil Installs		
					MAD	E GROUND - Soft grey g bunded fine to medium. H	ravelly CLAY. Gravel is subangular to ligh content of fill material.	Strikes			
0.50	ES								×		
1.00	BES			(2.20)							
2.00 2.00	BES			83.63 2.20	Soft suba	grey slightly sandy slightl ngular to subrounded fin	y gravelly slightly silty CLAY. Gravel is e to medium				
3.00 3.00	B ES			(1.20)							
				82.43 3.40		Ēīd	of trial pit at 3.40 m				
Remarks			Water Strike			Stability:					
Trial pit tern in.	ninated at site	of trench wall falling	Struck (m) 0.50	Flow Details		Unstable - sides fall Difficulty:	ing in.		P yaeotech.com		

Caus	seway	Geotech I	_td	Projec 14-645			Project Name:	Greater Dul Investigatio	blin Drainage Scheme Ground	Trialpi TP1	
Method:		Plant:		Co-ord			Client:	Irish Water		Sheet	
Trial Pitting		CX130		312439	9.57mE					Scale:	1:25
Width: 0.	60m Be	aring: D			6.47mN		Client's I	Representative:	Tobin Consulting Engineers	Crew:	
Length: 3.	50m (d	с eg. N) в	A	Groun 83.87N	d Level	:	Dates:	03/02/2015		Logged B	y: DOM
Depth (m)			cords			Depth		Stra	tum Description	Legend & Water	Backfil
										Strikes	Installs
Depth (m) 0.50 0.50 1.00 2.00 2.00 2.00	B B ES B B ES	Field Re	cords		(0.30) 83.57 (1.60) 81.97 (0.30) 81.67 (0.20) 81.47	0.30 1.90 2.20 2.40	Firm bro cobbles subroun	IL win slightly sandy slig and boulders. Sand ded fine to medium. stiff dark grey slightly nal cobbles and bouk fine to coarse. Grave red bedrock (dark gre	sandy gravelly slightly silty CLAY with s fine to coarse. Gravel is subangular to sandy gravelly slightly silty CLAY with ters with fragments of weathered rock. I is subangular to subrounded fine to ry LIMESTONE).	Water Strikes	
Remarks Refusal me	t on possible	imestone bedrock	Wate Struck 2.40	r Strike (m)	PS: Flow Det	ails	St	ability: able		A0	
						fficulty:					

Causeway	Geotech Ltd	Projec 14-645		Projec Name:	t Greater Dub Investigation	lin Drainage Scheme Ground	Trialpi TP1	
Method:	Plant:	Co-orc		Client:			Sheet	
Trial Pitting	CX130	313162	2.95mE				Scale: 1	1:25
Width: 0.60m Be	aring: D		6.95mN	Client	's Representative:	Tobin Consulting Engineers	Crew:	
Length: 3.00m (de	сА eg. N) в	Groun 75.80N	d Level: 10D	Dates:	03/02/2015		Logged B	y: DOM
					Strat	um Description	Legend & Water	Backfill
Depth (m) Sample / Test 0.50 B 1.50 B			Level & Depth (0.80) 75.00 0.80 (0.90) 74.10 1.70 (0.20) 73.90 1.90	Firm cobbl medi	Strat SOIL to stiff dark grey slightly s les and boulders. Gravel um. Cobbles and boulder thered bedrock (dark grey	sum Description	Legend & Water	
Remarks Refusal met on possible I	Struc 1.70	er Strike :k (m)	S: Flow Details		Stability: Stable Difficulty:		AC	I S

Caus	seway	Geote	ech	Ltd	Projec 14-645			Projec Name:	:t :	Greater Du Investigatio	ublin Drainage Scheme Ground	Trialp TP1	
Method: Plant:			Co-ord	Co-ords:		Client	:	Irish Water	r	Sheet			
Trial Pitting CX130				3.78mE		011-0-04				Scale:	1:25		
Width: 0.60m Bearing: D		D		7.97mN		Client	's Repro	esentative	: Tobin Consulting Engineers	Crew:			
с Length: 3.00m (deg. N) в			Ground Level: 4.84MOD		Dates:	Dates: 03/02/2015			Logged B				
Depth (m)	Sample / Test	:	Field F	Records		Level 8	& Depth			Str	ratum Description	Legend & Water Strikes	& Backfil Installs
								TOP	SOIL			Junes	
						(0.30)							
						4.54	0.30	Firm cobb	brown sli les and b	ghtly sandy g oulders. Grav	gravelly slightly silty CLAY with occasiona vel is subangular to subrounded fine to		
								medi	ium. Cobb	les and bould	ders are subangular to subrounded	ČČ Č	
												Č <u>Č</u> Ž	
1.00	2											<u>267.401</u> 27.277	
1.00	В											<u>~~~~</u>	
												<u>ČŠŽ</u> Č	
												Å SON DE	
												<u>ČČ O</u>	
												<u> 202 - 92</u>	
	_											202 202 202	
2.00	В											<u>ČČŽ</u> Č	
						(3.70)						<u>Č</u> ČČ	
												<u> </u>	
												<u>~~~</u>	
												<u> 70,200</u>	
												<u> 02 0</u>	
3.00	В												
												nox V Azerti	
												<u> </u>	
												<u>A</u>	
4.00	P					0.84	4.00						
4.00	В					0.84	4.00	Firm with	to stiff da occasiona	rk grey slightl al cobbles and	tly sandy slightly gravelly slightly silty CLA d rare boulders. Sand is fine to coarse.	Y COL	
						(0.50)		Grav	el is suba	ingular to sub	prounded fine to medium.	<u>¢č</u> žQ	
						0.34	4.50			E	End of trial pit at 4.50 m	<u> </u>	
Remarks				Wate	r Strike	s:			Stabilit	y:			
Nonidi NS				Struck		Flow De	tails		Stable	-			-
													29
									Difficu	lty:		AU	
												www.causewa © Causeway	ygeotech.com Geotech Ltd

Cau	seway	Geote	ch Ltd	Projec 14-645			Projec Name:	t Greater Dub Investigation	lin Drainage Scheme Ground	Trialpi TP1	
Method:		Plant:		Co-ord			Client:			Sheet 2	
Trial Pitting		CX130		323399	9.33mE					Scale: 1	:25
Width: 0.	60m Be	aring:	D		3.33mN		Client'	s Representative:	Tobin Consulting Engineers	Crew:	
Length: 3.	50m (d	c eg. N)	B	3.98M	d Level: OD		Dates:	03/02/2015		Logged By	: DOM
Depth (m)	Sample / Test		Field Records		Level &	Depth		Strat	um Description	Legend & Water	Backfil Installs
1.00 2.00	B				(0.25) 3.73 (1.85)	0.25	TOPS Firm I cobbl medit	SOIL brown slightly sandy gra es and boulders. Gravel um. Cobbles and boulde	velly slightly silty CLAY with occasional is subangular to subrounded fine to rs are subangular to subrounded.		Installs
3.00	В				1.88 (2.40)	2.10	with c	to stiff dark grey slightly occasional cobbles and t ngular to subrounded fin	sandy slightly gravelly slightly silty CLAY ooulders. Sand is fine to coarse. Gravel is e to medium.		
4.00	В				-0.52	4.50		End	of trial pit at 4.50 m		
			er Strike				Stability:				
			Struc	k (m)	Flow Deta	ails		Stable			
							ŀ	D.(() //		- AC	S
								Difficulty:			-
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										© Causeway	Seotech Ltd

Appendix E Trial pit photographs

































































































































